Final Verification Report

Spectrum Licence Allocation at 700MHz and 2.5GHz

Auction completed on 6 May 2013

Verification Objective

The objective was to provide independent verification of the outcome of the auction completed on 6 May 2013, by independently processing bid data to determine winners and prices at the end of the allocation stage, assignment options prior to the commencement of the assignment stage bidding, and winners and prices at the end of each round in the assignment stage.

Verification Process

The verification process took, as its input, bid data and results that were downloaded from the Auction System. The bid data were used to calculate a second set of results, using the Smith Institute's independent solvers for the allocation stage and assignment stage. The two sets of results were compared for any discrepancies.

The verification process assumed that the bids were valid bids under the auction rules.

In the event of tied winning combinations from which a choice must be made by pseudorandom selection, under clauses 45 or 74 of the Determination, it was verified that the Auction System correctly identified one of the possible winning combinations and associated prices.

Independence and Credentials

The Smith Institute for Industrial Mathematics and System Engineering provides its clients with independent advice, techniques and solutions, based on the use of mathematical models and algorithms. Its staff are recruited primarily for their outstanding expertise in problem-solving, model implementation and data analysis, coupled to core skills in project management and delivery. Many have extensive research experience at leading universities, and the Institute maintains strong links with the research base.

The Smith Institute has worked on the development, testing and verification of combinatorial clock auctions for spectrum licences since 2007. It has supported the successful completion of many combinatorial spectrum auctions, including those in the UK, Austria and Switzerland.

The Smith Institute is an independent company, and has no engagement with bidders, their associates or other stakeholders in the ACMA's auction that might compromise this independence in carrying out verification of the outcome of the auction.

Findings

On the basis of our verification of the results of the allocation stage and assignment rounds calculated by the Auction System for the ACMA's allocation of spectrum licences at 700MHz and 2.5GHz, the Smith Institute can confirm that its independent implementation concurs with the result of the Auction System in respect of:

- winning bidders at the allocation stage
- winning bids at the allocation stage
- allocation prices
- assignment options for each bidder in each assignment round
- winning assignment bids in each assignment round
- assignment prices in each assignment round.

The winning bidders, the spectrum that has been assigned to each as a result of the auction, and their aggregated allocation and assignment prices are as follows.

Optus Mobile:

A National assignment at 703-713MHz, paired with 758-768MHz.
An assignment at 2550-2570MHz in Metro ACT, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Metro Adelaide, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Metro Brisbane, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Metro Darwin, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Metro Hobart, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Metro Melbourne, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Metro Perth, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Metro Sydney, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Regional East Australia, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Regional Western Australia, paired with 2670-2690MHz.
An assignment at 2550-2570MHz in Remote Australia, paired with 2670-2690MHz.
Total Price: $649,134,167

Telstra:

A National assignment at 713-733MHz, paired with 768-788MHz.
An assignment at 2510-2550MHz in Metro ACT, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Metro Adelaide, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Metro Brisbane, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Metro Darwin, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Metro Hobart, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Metro Melbourne, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Metro Perth, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Metro Sydney, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Regional East Australia, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Regional Western Australia, paired with 2630-2670MHz.
An assignment at 2510-2550MHz in Remote Australia, paired with 2630-2670MHz.
Total Price: $1,302,019,234

TPG Internet:
An assignment at 2500-2510MHz in Metro ACT, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Metro Adelaide, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Metro Brisbane, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Metro Darwin, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Metro Hobart, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Metro Melbourne, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Metro Perth, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Metro Sydney, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Regional East Australia, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Regional Western Australia, paired with 2620-2630MHz.
An assignment at 2500-2510MHz in Remote Australia, paired with 2620-2630MHz.
Total Price: $13,500,000

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